CATALOG DOCUMENTATION
EMAP SURFACE WATERS PROGRAM LEVEL DATABASE
1993-1996 MID-ATLANTIC STREAMS DATA
Periphyton Palmer Count Data

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1. DATA SET IDENTIFICATION

1.1 Title of Catalog Document
EMAP Surface Waters Stream Database
1993-1996 Mid-Atlantic Streams
Periphyton Palmer Counts Data

1.2 Authors of the Catalog Entry
U.S. EPA NHEERL Western Ecology Division
Corvallis, OR

1.3 Catalog Revision Date
January 1999

1.4 Data Set Name
PERISCNT

1.5 Task Group
Surface Waters

1.6 Data Set Identification Code
117

1.7 Version
001

1.8 Requested Acknowledgment
These data were produced as part of the U.S. EPA's Environmental Monitoring and Assessment Program (EMAP). If you publish these data or use them for analyses in publication, EPA requires a standard statement for work it has supported:."Although the data described in this article have been funded wholly or in part by the U.S. Environmental Protection Agency through its EMAP Surface Waters Program, it has not been subjected to Agency review, and therefore does not necessarily reflect the view of the Agency and no official endorsement of the conclusions should be inferred."

2.0 INVESTIGATOR INFORMATION

2.1 Principal Investigator

Dr. John Stoddard
U.S. Environmental Protection Agency
NHEERL Western Ecology Division
200 S.W. 35th Street
Corvallis, OR 97333

2.2 Investigation Participant- Sample Collection

Oregon State University
State of Virginia
State of West Virginia
State of Maryland
State of Pennsylvania
University of Maine
U.S. Fish and Wildlife Service
U.S. Environmental Protection Agency
Office of Research and Development
Region III

3.0 DATA SET ABSTRACT

3.1 Abstract of the Data Set

The data set contains the results of periphyton counts from samples collected from erosional and depositional habitats located at each of nine interior cross-section transects. Counts for each diatom and soft algae genera are represented as both raw laboratory counts and counts per area sampled.

3.2 Keywords for the Data Set

algae, bacteria, count, organic matter, periphyton, protozoa

4.0 OBJECTIVES AND INTRODUCTION

4.1 Program Objectives

The Environmental Monitoring and Assessment Program (EMAP) was designed to periodically estimate the status and trends of the Nation's ecological resources on a regional basis. EMAP provides a strategy to identify and bound the extent, magnitude and location of environmental degradation and improvement on a regional scale based on a probability-based statistical survey design.

4.2 Data Set Objective

This data set is part of a demonstration project to evaluate approaches to monitoring streams in EMAP. The data set contains the results of multi-habitat sample of the periphyton taken during spring low-flow.

4.3 Data Set Background Discussion
The primary function of the peridcnt data set is to provide a count of the periphyton genera present in the stream at the time of sampling. Periphyton represents an integral component of stream biological integrity. Periphyton is algae, fungi, bacteria, protozoa, and associated organic matter associated with channel substrates. Periphyton are useful indicators of environmental condition because they respond rapidly and are sensitive to a number of anthropogenic disturbances, including habitat destruction, contamination by nutrients, metals, herbicides, hydrocarbons, and acidification.

4.4 Summary of Data Set Parameters
Raw counts and counts per area sampled for each genera. Flow type at sample point is also indicated.

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition

5.1.1 Sampling Objective
To obtain counts of periphyton species at the sample site during a two month sampling window from April through mid-June.

5.1.2 Sample Collection Methods Summary
Periphyton samples were collected from erosional and depositional habitats located at each of nine interior cross-section transects (transects "B" through "J") established within the sampling reach, according to the protocols outlined in Lazorchak et. al (1998).

5.1.3 Sampling Start Date
April 1993

5.1.4 Sampling End Date
September 1996

5.1.5 Platform
NA

5.1.6 Sampling Gear
Plastic funnel, 500ml plastic bottles, stiff-bristled toothbrush, 60-ml syringe, and a wash bottle.

5.1.7 Manufacturer of Instruments
NA

5.1.8 Key Variables
NA

5.1.9 Sampling Method Calibration
NA

5.1.10 Sample Collection Quality Control
See Lazorchak, et al. 1998.

5.1.11 Sample Collection Method Reference

Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group, 1994 Activities. EPA 600/X-91/080, Rev. 2.00. U.S. Environmental Protection Agency, Las Vegas, Nevada.

5.1.12 Sample Collection Method Deviations
NA

5.2 Data Preparation and Sample Processing

5.2.1 Sample Processing Objective
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.2 Sample Processing Methods Summary
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.3 Sample Processing Method Calibration
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.4 Sample Processing Quality Control
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.5 Sample Processing Method Reference
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

6. DATA MANIPULATIONS

6.1 Name of New or Modified Values
None.

6.2 Data Manipulation Description
See Chaloud and Peck (1994).

7. DATA DESCRIPTION

7.1 Description of Parameters

Parameter SAS Name	Data Type	Len	Format	Parameter Label
CNT_AREA	Num	8		Taxon Population Per cm^2 Sampled
COMMENT	Char	200		Periphyton Comments
DATE_COL	Num	8	MMDDYY	Date of Site Visit
GENERACO	Char	5		Unique genus ID
LAT_DD	Num	8		X-Site Latitude (decimal degrees)
LON_DD	Num	8		X-Site Longitude (decimal degrees)
RAWCNT	Num	8		Unadjusted (Raw) Lab Counts
SAMPLED	Char	30		Site Sampled Code
SAMPTYPE	Char	20		Sample Method

7.1 Description of Parameters, continued

SAMP_ID	Num	8		Sample Tracking Number (Barcode)
SITE_ID	Char	15	$CHAR	Site Identification Code
TAXON	Char	100		Latin Designation
VISIT_NO	Num	8		Within Year Site Visit Number
YEAR	Num	8		Year of Site Visit

7.1.6 Precision to which values are reported

7.1.7 Minimum Value in Data Set

Name	Min
CNT_AREA	0.03
DATE_COL	04/26/1993
LAT_DD	36.5535
LON_DD	-83.244438889
RAWCNT	1
SAMP_ID	200501
VISIT_NO	0
YEAR	1993

7.1.7 Maximum Value in Data Set

Name	Max
CNT_AREA	8334240
DATE_COL	09/15/1996
LAT_DD	42.327388889
LON_DD	-74.351108333
RAWCNT	16668480
SAMP_ID	230627
VISIT_NO	2
YEAR	1996

7.2 Data Record Example

7.2.1 Column Names for Example Records

```
"CNT_AREA","COMMENT","DATE_COL","GENERACO","LAT_DD","LON_DD","RAWCNT",
"SAMPLED","SAMPTYPE","SAMP_ID","SITE_ID","TAXON","VISIT_NO","YEAR"
```

7.2.2 Example Data Records

```
1975.33," ",05/17/1994,"CHCO",38.52530,-75.63110,26667,"Yes","POOL",210600,
"DE750S","Chlorophyta cosmarium",1,1994

296.3," ",05/17/1994,"CHMO",38.52530,-75.63110,4000,"Yes","POOL",210600,
"DE750S","Chlorophyta mougeotia",1,1994

19753.11," ",05/17/1994,"CHOE",38.52530,-75.63110,266667,"Yes","POOL",210600,
"DE750S","Chlorophyta oedogonium",1,1994
```

8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude
-83 Degrees 14 Minutes 39 Seconds West (-83.24444 Decimal Degrees)

8.2 Maximum Longitude
-75 Degrees 7 Minutes 17 Seconds West (-75.12139 Decimal Degrees)

8.3 Minimum Latitude
36 Degrees 33 Minutes 12 Seconds North (36.55350 Decimal Degrees)

8.4 Maximum Latitude
41 Degrees 57 Minutes 21 Seconds North (41.95601 Decimal Degrees)

9. QUALITY CONTROL / QUALITY ASSURANCE

9.1 Data Quality Objectives
See Chaloud and Peck (1994)

9.2 Quality Assurance Procedures
See Chaloud and Peck (1994)

9.3 Unassessed Errors
NA

10. DATA ACCESS

10.1 Data Access Procedures

10.2 Data Access Restrictions

10.3 Data Access Contact Persons

10.4 Data Set Format

10.5 Information Concerning Anonymous FTP

10.6 Information Concerning WWW

10.7 EMAP CD-ROM Containing the Data

11. REFERENCES

Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group, 1994 Activities. EPA 600/X-91/080, Rev. 2.00. U.S. Environmental Protection Agency, Las Vegas, Nevada.

12. TABLE OF ACRONYMS

13. PERSONNEL INFORMATION

Project Manager
Dr. John Stoddard
U.S. Environmental Protection Agency
NHEERL Western Ecology Division
200 S.W. 35th Street
Corvallis, OR 97333
541-754-4441
541-754-4716(FAX)
stoddard@mail.cor.epa.gov

Quality Assurance Officer
Dave Peck
U.S. Environmental Protection Agency
NHEERL Western Ecology Division
200 S.W. 35th Street
Corvallis, OR 97333
541-754-4426
541-754-4716(FAX)
davep@mail.cor.epa.gov

Information Management, EMAP-Surface Waters
Marlys Cappaert
CSC c/o U.S. Environmental Protection Agency
NHEERL Western Ecology Division
200 S.W. 35th Street
Corvallis, OR 97333
541-754-4467
541-754-4716(FAX)
cappaert@mail.cor.epa.gov